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USSR Report

AGRICULTURE

No. 1378

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MAJOR CROP PROGRESS AND WEATHER REPORTING

SEED PRODUCTION, STORAGE PROBLEMS IN CHELYABINSK OBLAST REVIEWED

Moscow IZVESTIYA in Russian 25 Jan 83 p 1

/Article by G. Shcherbina, Chelyabinsk Oblast: "Seed -- The Foundation for the Harvest"/

/Excerpts/ The workers in the southern Urals have included in their socialist obligations the fact that in 1983 they must sell 270,000 more tons of grain than they did last year. This requires an increase in the average cropping power of the grain crops of a minimum of 1.5-2 quintals per hectare.

It can be stated directly that this is not an easy task. But the oblast's leading farms have proven that the required yield can be obtained even under the most difficult of weather conditions provided good solutions are found for an entire complex of problems.

A great amount of work has already been carried out throughout the oblast. Almost 100 percent of the sowings are of a high quality nature. Considerably more land is being sown using the seed of high reproductions and new varieties of cereal grain crops of an intensive type have been introduced into operations. There is enough 1st and 2d class seed for more than 90 percent of the arable land designated for grain and pulse crops. Coupled with last year's favorable conditions, this fact alone was of great assistance in that it made it possible to sell 1 million tons of grain to the state and to create a reliable seed fund.

The specialists have estimated that further improvements in seed production and genuine concern for the seed can serve to furnish an annual increase in the grain harvest of 250,000-300,000 tons. The experience of the Troitskiy Sovkhoz serves to confirm this estimate.

Today the storehouses contain considerably more 1st and 2d class grain and pulse crop seed than was the case at this same time last year. The quality of the seed is improving: thorough grading and sorting is being carried out and 2,000 tons of Saratovskaya-46 wheat, 200 tons of millet and 300 tons of buckwheat were exchanged for varieties considered to be more effective in the southern Urals region.

At the same time, there are a number of problems awaiting solutions. As noted during the recent plenmu of the oblast party committee, the oblast's network of seed production farms has become obsolete; the farms are not satisfying the urgent requirements for seed of high reproductions. Quite often the seed must be obtained from random sources.

The collaboration taking place between the Troitskiy Sovkhoz and YuzhuralNIIZ /South Ural Scientific Research Institute of Farming/ underscores the great unused reserves which are available for carrying out this work. It is apparent that the Rossiyanka wheat variety is excellent for local conditions and should be used more. But as yet the locally bred varieties occupy only 180,000 hectares throughout the oblast, or about 10 percent of the grain fields. This then represents a broad field of activity for the scientist plant breeders of the southern Urals region.

Everything must change for the better. In the spring, simultaneous with the introduction of three zonal farming systems, the decision has been made in the oblast to single out a seed production farm in each rayon which will be responsible for the deliveries of high quality varietal seed.

Naturally, this is good. But just as soon as the talk turned to the logistical base for seed production, it was obvious that thought had to be given here not only to the rayon seed production farms already created. Recently I visited the Argazinskiy Sovkhoz in Argayashskiy Rayon. Accompanied by the farm's chief agronomist S. Naumov, I inspected the seed storehouses -- for wheat, barley, oats, peas, buckwheat, sweet clover and so forth. It was obvious to all that the personnel were sincerely trying to ensure that high quality seed would be available. Despite the fact that in the autumn the work was complicated by the absence on many thrashing floors of asphalted platforms and by the use of grain sorting machines which were badly worn out. But just as soon as the difficulties were overcome, still another misfortune threatened: the roofs of the seed storehouses were punctured by holes, through which passed gusts of wind, snow and sparrows. Thus it happened that following a report on full readiness of the seed on the eve of the sowing work, it became necessary to process the seed again, thereby incurring additional expenses. It turns out that the sovkhoz was never allocated the funds needed for creating the conditions required for processing and storing the seed. In Argayashskiy Rayon -- one of the oblast's grain rayons -- there are no substantial seed storehouses and of 100 grain-cleaning and sorting machines and units, loaders and so forth ordered over the past 3 years, only one half have been received.

True, a 3-year program has been developed in the rayon for reorganizing the seed production economy -- a specific and sound program. It is now up to the oblast organizations to implement it.

Moreover, this applies not only to Argayashskiy Rayon. Measures must be undertaken in all areas aimed at developing and improving seed production work. I repeat: if the estimates of the specialists indicate that only on this basis will it be possible to increase the annual production of grain by 250,000-300,000 tons, then surely today we should have a clear notion as to what work should be carried out and where specifically it should be accomplished.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PREPARATIONS FOR SPRING FIELD WORK IN NONCHERNOZEM ZONE

Moscow IZVESTIYA in Russian 22 Jan 83 p 3

/Article by R. Bikmukhametov, P. Novokshonov and O. Pavlov: "Signs of Spring in Nonchernozem Zone"/

/Text/ Until recently, there had been no winter-like conditions in many oblasts and autonomous republics of the nonchernozem zone. And thus the winter crop fields appear unusual at the present time with their light covering of snow.

Since autumn, in a majority of areas throughout the Russian nonchernozem zone, the winter crops had taken root and bushed out in a reliable manner and have been evaluated as satisfactory by specialists of the USSR Minsel'khoz /Ministry of Agriculture/. Moroever, the unstable weather which disturbed the agronomists appears to be changing. Snow has fallen over the past few days in Severo-Zapadnyy and Tsentral'nyy Rayons, thus changing the appearance of the fields. The specialists are pleased that the snow is covering the winter crops and protecting them against the cold, which still persists in the nonchernozem zone.

It is well that in many rayons the conversion over from autumn work to intensive preparations for the 1983 sowing campaign has been carried out in a rapid and rhythmic manner. Moreover, it bears mentioning that not only have repairs been carried out at a higher tempo than a year ago on the tractors (84 percent of them were prepared for work on 1 January and the plan for repair work was fulfilled by 114 percent), plows, sowing machines, potato planters and land reclamation equipment, but in addition improvements were noted in the quality of the repairs. The farms in the nonchernozem zone have been supplied with seed for their spring grain and pulse crops to 102.8 percent of their requirements. The quantities of 1st and 2d grade seed are somewhat greater than those for last year.

On a majority of the farms and rayons visited by our correspondents, a business-like attitude was observed and also a desire, following the two previous unfavorable years, to compensate this year to the maximum possible degree for the shortfall in products and to make a real contribution towards implementing the May and November (1982) Plenums of the CPSU Central Committee. The attitude of the personnel has been influenced greatly by the constant attention which the Politburo of the CPSU Central Committee has given to the specific and vital problems concerned with implementation of the food program and the exemplary carrying out of the spring field work.

In many rayons which earlier were not distinguished by high operational results and which today are experiencing difficulties owing to a weakly developed network of roads and shortcomings in logistical supply, some fine changes have been noted taking place.

One such rayon is Ul'yanovskiy Rayon in Kaluga Oblast. For a long period of time the yields and livestock productivity here were lower than the averages for the oblast. In terms of available fixed capital and the power-worker ratio, the farms here are noticeably inferior to those in the oblast's leading rayons.

"Unfortunately, this backwardness in development of the logistical base will continue during the next few years. We are aware that the economically weak kolkhozes and sovkhozes will not become stronger all at once" stated the 1st secretary of the rayon CPSU committee V. Shkilev, "But great importance is attached to the fact that the May and November (1982) Plenums of the party's Central Committee created fine prerequisites for achieving improvements in low profitability and unprofitable farms. Our kolkhozes will receive substantial support in this regard. More extensive use must be made of these favorable opportunities.

Having arrived only recently in the rayon from the staff of the oblast's agricultural administration, V. Shkilev and a number of other energetic specialists succeeded in elevating the rayon to the position of one of the oblast's leading producers of flax -- last year it over-fulfilled the plan. Some farms, for example the Ul'yanovskiy Sovkhoz, obtained good grain crop and grass yields. This year the plans of the rayon agroindustrial association call for a noticeable increase in the cropping power of clovers (within the rayon they occupy 11,500 hectares of 45,000 hectares of arable land), flax, potatoes and grain crops. The task is being assigned on all of the farms of introducing a collective approach in farming, with the teams being assigned complete crop rotation plans. In the meantime, all of the sowing and soil cultivation equipment has been prepared and during the next few days the grain combines will be moved up to the readiness lines and by 1 February -- the tractors and feed harvesting machines.

Distinct from Ul'yanovskiy Rayon, Roslavl'skiy Rayon in Smolensk Oblast is one which today is defining the face of agricultural production in the oblast. Here there are truly strong and highly productive kolkhozes.

Thus, after fulfilling their national economic plans for the sale of all types of agricultural products to the state, the workers at the Krasnyy Oktyabr' Kolkhoz completed the second year of the five-year plan with high indicators. More than 1 million rubles worth of net profit was obtained. This year's wintering program is being carried out in a successful manner. All of the farms are showing improvements compared to last year.

"One of the principal factors for achieving a high profitability for our animal husbandry branch is that of ensuring the availability of high quality coarse and succulent feed" stated the chairman of the administration A. Prokopov, "For this current wintering program, for example, we procured 23 quintals of feed units per standard head. But the problem is not simply one of quantity. The principal bulk of the hay, silage and haylage consists of such high protein forage crops as lupine, peas, clover, cock's foot and alfalfa. The farm completely supplies its own 1st and 2d class seed. A high cropping power is having an effect. Two cuttings from each of 1,150 hectares planted in perennial grasses are producing 45-50 quintals of 1st class hay. These same areas are providing the farms with a green top dressing right up until late autumn."

Nevertheless, A. Prokopov still does not feel that all measures have been undertaken. At the present time, the kolkhoz's specialists have developed a detailed and specific program of action for strengthening the feed base. The task has been assigned, for both the summer and winter, of obtaining a daily average of 1 pood of milk per cow. And this requires a sharp increase in the cropping power of the cultivated pastures. Here a chief concern is that of applying a minimum of 20 tons of peat and manure compost to each hectare and increasing the sowings of lupine, corn, peas, clover and alfalfa.

"In past years, peas were grown in our zone, good yields were obtained and we produced our own seed and fine forage" continued the chairman, "it must be admitted however that recently we have neglected this work."

That which has been stated applies more to other farms in the rayon. A discussion held with the secretary of the municipal party committee A. Titkov and the chairman of the rayon executive committee I. Kovalenko and an analysis of statistical summaries do not present a very glowing picture. The amount of seed for peas and vetch is quite low.

The situation which prevails in Roslavl'skiy Rayon is typical of Smolensk Oblast on the whole. The proportion of available seed for valuable grasses does not exceed 34 percent. It is obvious that the oblast requires the support of RSFSR Minsel'khoz and Minzag /Ministry of Procurements/. And especially the northern rayons, which are located in a zone of swamps. The southern and western rayons are similar to Roslavl'skiy Rayon in that they are fully capable of creating an adequate seed fund for forage crops.

In solving these tasks which life has assigned to the strong kolkhozes and sovkhozes in the nonchernozem zone and to those who have not yet achieved the required level of production, a chief role will be played by improving the overall culture of management.

For a concerned farmer, a year is not divided into seasons. Thus, at the Avrora Sovkhoz in Gryazovetskiy Rayon in Vologodskaya Oblast it is a real pleasure to see how quickly and knowledgeably the machine operators repair their sowing equipment.

And yet at the Pravda Sovkhoz the equipment has still not been moved up to the readiness line for spring operations. And how could this be if it is appropriate to recall another saying here: "They will steal the wheels from a cart of a careless owner." Here the equipment, in the literal sense of the word is without wheels. Some of the tractors are for the most part unmanned. The dirt has not been removed from the combines and grain and fertilizer remain in the sowing machines.

The examples cited underscore different attitudes towards the work of preparing for spring. It was by no means an accident that this question was the subject of a discussion which took place during a recent session of the oblast's Soviet of People's Deputies. But no serious changes followed. Organic materials are being applied very slowly and 9 million tons must be applied.

The workers in Vologda Oblast are not distressed regarding the mineral fertilizer situation. They are producing it themselves. Another large-tonnage unit at the Cherepovets nitrogen fertilizer plant has just commenced producing its initial granules of ammonium nitrate. Naturally, it can only be assumed that the rhythmic supply of mineral fertilizers to the oblast will have an effect on the scientifically sound applications of the fertilizer. But here there is considerable discord. The application of lime to the soil has fallen behind in particular.

It bears mentioning that the work of applying lime to the soil is not proceeding too well throughout the nonchernozem zone as a whole. The plan for last year was fulfilled by only 95 percent. Compared to 1981, almost no increase has taken place in the volume of this work. The amount of lime applied per hectare in this same Vologda and also in Novgorod, Pskov and in a majority of the oblasts in the central region is less than the average for the zone.

Unfortunately, the plan for applying organic fertilizer was not fulfilled for the zone as a whole. Unacceptably low amounts of organic materials were applied to the fields in Orel, Ryazan, Kaluga, Tula, Kirov and Perm Oblasts and in the Mordovian ASSR.

One especially alarming factor being experienced in these and some other oblasts and autonomous republics -- there is no sense of improvements for the better taking place. References to the warm weather and poor roads are not convincing: under such conditions, good managers do not overlook the need for improving the fertility of the fields. This is particularly true at the present time as the frosts make their presence known and it becomes possible to apply the fertilizer in almost all areas. Better use must be made of each winter day and constant concern displayed for the future harvest.

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DAMAGE CAUSED BY RYE STALK FLY REVIEWED

Moscow ZASHCHITA RASTENIY in Russian No 12, Dec 82 p 45

/Article by L.G. Luk'yanova, head of the Shakhunya Station for Signalling and Forecasts: "Rye Stalk Fly"/

/Text/ The rye stalk fly Nybolasiontera cerealis Lind. appears annually in the northern part of Gorkiy Oblast, but only rarely does it appear in great numbers. Thus, over a period of 11 years of observations, severe damage caused by the larvae of the rye fly was recorded on only two occasions (1972 and 1981). Last year a study was undertaken of the numbers of the pest and also the degree of harm caused by it. Winter rye plantings were inspected in Shakhunskiy, Sharangskiy, Urenskiy and Krasnobakovskiy Rayons in Gorkiy and Kiknurskiy Rayon in Kirov Oblasts. The observations were conducted during the ripening period for the rye using a generally accepted method. Specimens were analyzed in a laboratory. In the damaged stalks, dark spots resembling India ink blurs could be seen through the sheath of the leaves. This special film is formed from secretions from the larvae and the juice which issues from the plant. The pest itself remains under the film in a rather deep furrow made in the stalk. The stalks were subdivided into healthy or damaged groups. The latter included larvae of the rye stalk fly which more often than not are found on the second and third nodes and less often -- on the first and fourth. Their number on one stalk can vary from one to four specimens: one for each leaf sheath, commencing with the lower one, or two for one sheath. In all, 656 hectares were inspected and all sectors turned out to be damaged (an average of 35.8 larvae per square meter, or 1-1.6 per colonized plant).

The observations revealed that the most damage occurred in plantings which adjoined clovers in the first year of their use (grown under a cover of winter rye) and wheatgrass on roadside and forest strips.

The colonized plants are of low height and have comparatively thin straw and short ears with puny grain. For determining the degree of harm caused by the rye stalk fly, measurements were taken of the height of the plant stand, the size of an ear and the weight of the straw, grain in an ear and 1,000 seed from healthy and damaged plants. A comparison of the indicators revealed that in the case of the latter the stalk became shorter by 13.8 percent on the average, the size of the ear decreased by 28.2 percent, the number of grains in an ear decreased by 37.7, the productivity of an ear -- by 53.3 and the weight of 1,000 seed -- by 25.4 percent.

On the most colonized tracts, success was achieved in determining the reduction in ear productivity when damage was caused by one, two, three or four larvae. The weight of the grains in an ear as a result of one specimen decreased by 40-52 percent, two -- by 65-69, three -- by 68 and four -- by 88 percent.

The approximate losses in yield for an average number of 1-2.5 larvae per colonized plant can be computed using the formula: $\text{П} = 0.5 \cdot P \cdot \sqrt{\text{Ч}}$, where П is the loss in yield (in %), P is the percentage of damaged plants and Ч is the average number of larvae per damaged plant; for 2.5-3 larvae $\text{П} = 0.7 \times P$; for an average number of more than 3.5 specimens per plant $\text{П} = 0.8 \times P$. Average daily temperatures which are high for the particular zone and a small amount of precipitation during the growing season promote the mass development of the fly.

The pest has one generation. The larvae winter in winter rye and wheat stubble and in the stalks of wheatgrass. Prior to the moment of flight of the fly (in May), the stubble on a majority of the fields is destroyed and the pest is destroyed with it. Thus, in order to limit the colonization, the rye plantings must be isolated and a campaign waged against wheatgrass.

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HURRICANE CONDITIONS IN KALININGRAD OBLAST DESCRIBED

Moscow SOVETSKAYA ROSSIYA in Russian 4 Feb 83 p 2

/Article: "Hurricane on an Amber-Colored Shore"/

/Text/ The elements raged over Kaliningrad Oblast for 2 weeks with only minor interruptions.

All three onslaughts by the hurricane were accompanied by strong winds -- 30-40 meters per second and with considerable flooding. The water level of the Pregolya River rose to 180 cm above normal. The coastal streets of Kaliningrad and the grounds of a number of industrial enterprises were flooded.

The kolkhozes and sovkhozes sustained damage caused by the elements. The feed storage facilities in a number of areas were flooded and the animal husbandry farms lost their electric power.

The residents of Kalingrad Oblast fought the elements in a steadfast and selfless manner. Warned in advance by specialists of the hydrometeorological observatory, the collectives of enterprises, kolkhozes and sovkhozes were not taken by surprise. At a freight car construction plant, for example, emergency crews placed valuable equipment on raised platforms and on shelves that has been installed on an emergency basis. In addition, the electric motors were removed from machines. The finished products at a second pulp and paper combine and at a milling combine were rescued from the water through the efforts of all of the workers. In the evening, in the region of the maritime port, thousands of city-dwellers were cut off from the city by the water as they were returning from work. Soldiers from the Kaliningrad Garrison, using powerful "Urals," provided them with assistance.

A critical situation developed at a coke and gas plant. The water threatened to enter the ventilation pipes. The shift of foreman V.A. Pinchuk, working up to their knees in water, shifted hundreds of tons of coal and clay using shovels.

The after-effects of the hurricane which swept down upon the kolkhozes and sovkhozes in Bagrationovskiy Rayon were such that it appeared that more than 1 week was required in order to restore normal conditions. Electric power transmission poles were snapped by the wind, trees were uprooted and the roofs of farm buildings and homes were swept away. At the Bor'ba Sovkhoz, despite the hurricane wind, work continued as usual; the tractors moved out onto the roads and the machine operators delivered feed to the farms. And when electric power was lost at the dairy complex and it appeared that machine milking was about to be terminated, the tractors substituted for the electric motors and began operating the vacuum pumps. The milking was carried out at the proper time. This problem was handled in the same manner on other farms. At the present time, no reductions have taken place in the production of animal husbandry products in Bagrationovskiy, Pravdinskiy, Slavskiy or other rayons.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

FIELD FERTILITY WORK--Pskov--Large mechanized detachments are delivering fertilizers to the oblast's fields. One and a half million tons of compost are being made available in behalf of the future harvest. The machine operators are 1 month ahead of last year's schedule. Detachments of Sel'khozkhimiya are working out on the fields together with the farm personnel. They are making plans for the liming of acid soils. One third of the winter task has already been fulfilled. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 18 Jan 83 p 1/ 7026

BRYANSK OBLAST POTATO PLAN--Bryansk--The workers in Bryansk Oblast are ahead of schedule in delivering fertilizer to the fields. Six million tons of compost -- in excess of 700,000 tons more than the figure for last year -- are being made available in behalf of the future harvest. A large amount of fertility vitamins is being applied for the potatoes. The farmers plan to obtain 155 quintals of tubers from each of 116,000 hectares. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 15 Feb 83 p 1/ 7026

RAISED OBLIGATIONS--Vladimir Oblast--In the nonchernozem zone, the soil gives up an average of 42 kg of nitrogen, 12 of phosphorus and 20 kg of potassium with each ton of grain obtained. And almost every year the kolkhoz obtains an average of 40 or more quintals of grain. Thus the strength of the land must be restored in order to avoid reductions in yields. The farmers in Suzdal'skiy Rayon have undertaken raised obligations for the middle year of this present five-year plan. The plans call for not less than 30 quintals of grain to be obtained per hectare, potatoes -- 165, silage crops -- 235 quintals. The preparations for spring are becoming more tense with each passing day. And whereas the situation with regard to the equipment and seed appears to be progressing smoothly, the schedule for the hauling of organic fertilizer for the rayon as a whole is being disrupted from time to time. The fact of the matter is that some roads leading to the fields have been impassable. On some farms they have been reinforced through the use of gravel and the waste products of construction materials and at the present time, with true winter frosts asserting themselves, a special 2-month campaign has been established for the hauling of organic fertilizer. There is every reason to hope that the obligation undertaken by the rayon -- to make 590,000 tons of organic fertilizer available -- will be fulfilled. /by Yu. Shtatnov/ /Excerpts/ /Moscow SEL'SKAYA ZHIZN' in Russian 15 Feb 83 p 1/ 7026

SEED PREPARATION WORK--Yaroslavl Oblast--The agronomists are carefully monitoring the status of the winter crops. The seedlings on a majority of the farms in Yaroslavl Oblast were good. However, thaw conditions introduced certain corrections and weakened the winter hardiness of the plantings. This must now be taken into account when preparing the seed for the spring crop fields. By 1 Februrary, 73 percent of the fields had been brought to sowing condition. The farmers in Nekrasovskiy and Gavrilov-Yamskiy Rayons, where all of the seed has been certified, are setting a fine example for others. Unfortunately, we are not able to cite many such examples. Another regularity can be traced rather clearly. In some areas seed production has been neglected and fertilizer applications have fallen behind. It is here that shortfalls in yields are being experienced. For a number of years now, entire rayons have been obtaining low yields. Moreover, by no means are these rayons either remote or complicated by difficult natural conditions. This applies to Uglichskiy and Borisoglebskiy Rayons. In accordance with the plan, the Yaroslavl fields must be supplied with a strong top dressing of organic materials -- up to 4.8 million tons. The count begins from this point. But by the fourth quarter of last year the plan had been fulfilled by only 40 percent. The work must be accelerated. The potential is available. Moreover, in Tutayevskiy Rayon, a department for the preparation of peatcompost has been placed in operation at the Poultry Factory imeni 50-Letiya SSSR. It is being brought in and used. And once again these are the farms which will be the first to have high yields. /by Z. Bystrova/ /Excerpts/ /Moscow PRAVDA in Russian 13 Feb 83 p 1/ 7026

LENINGRAD FLOOD CONDITIONS--Leningrad--"A plunging cyclone" -- such was the description given by the weather forecasters for the behavior of a whirlwind of air, which for the fourth time in the past 2 months has caused flooding in Leningrad. The specialists at the local weather bureau issued a timely warning to the municipal staff for combating natural calamities concerning a possible rise in the water level. This resulted in a timely warning being issued over the radio to the residents of Leningrad. The water reached the Neva River delta accompanied by strong gusts of wind and wet snow. The waves overflowed the sea walls on Vasil'yevskiy Island, the Petrograd side, the territory of the trade port and other maritime portions of the city. The residents of Leningrad countered the elements with bravery and a high level of organizational ability. They undertook all of the measures required for saving material values and evacuating the population from the flooded portions of the city. /Text/ /Moscow TRUD in Russian 23 Jan 83 p 4/ 7026

A HUNGRY BEAR--Karelian ASSR--This incident occurred on the ice of Pert Lake in Kondopozhskiy Rayon. A Petrozavodsk amateur fisherman was using spoon bait. He had caught about a dozen sigs (a type of salmon fish). This lucky fisherman, while busily engaged in his work, was suddenly distracted by his neighbors. In his opinion, they were acting somewhat strange: shouting, throwing up their hands, discarding their fishing tackle and thereafter fleeing. The fisherman glanced backward and straight into the unblinking eyes of a bear, who was eating his catch with gusto. The fisherman stood frozen in place. The uninvited guest calmly picked up the last sig with his claws, stood up on his hind legs and vaulted into the forest. This year, owing to the caprices of nature, the bear was left without a "winter apartment" and during his search for one had encountered the ubiquitous fishermen. Nor was he sorry that he had done so, since he had eaten to satisfaction. This was reported in the newspaper LENINSKAYA PRAVDA. [Text] [Moscow TRUD in Russian 18 Feb 83 p 4] 7026

NEVA RIVER ICE JAM--Leningrad--The weather this winter in Leningrad produced many surprises. And once again -- an unexpected development. The specialists had reported that the city was threatened by a so-called ice-jam flooding. Ice jams form each year on the Neva River -- an accumulation of ice and loose slush ice. When there is insufficient cold weather, this mass of slush is borne by the current down from the upper reaches of the river and, unable to freeze together, slides beneath the ice cover and sinks to the bottom, thus forming a type of dam. Such an ice-jam, 4-6 meters in thickness, has formed on the Neva at the present time. It is 4 kilometers in length. This ice-jam has stopped up the river. At the same time, owing to the warm winter, the water in Lake Ladoga is 40 cm higher than the average level. Hence an increase has taken place both in the discharge of water and in the speed of its flow in the river. This is the first time this has occured over a long period of time. At the present time, the residents of Leningrad are undertaking all measures aimed at preventing a misfortune from taking place. Ice-breaker tugboats are moving along the Neva plowing a path through the ice-jam into the Gulf of Finland. The powerful ice-breaker Kapitan Izvaylov has entered the Neva River. Explosives are being prepared -- the possibility exists that the ice-jam that has formed may have to be broken up by means of explosives. [by S. Smirnova] [Text] [Moscow TRUD in Russian 5 Feb 83 p 4] 7026

CONCERN FOR SEED--Yoshkar-Ola, 4 Mar--The agricultural service of the Order of Lenin Rassvet Kolkhoz in Sovetskiy Rayon is displaying a great amount of concern regarding the quality of the seed. All of the seed here has been improved to the 1st or 2d class of the sowing standard. For the rayon as a whole, 98 percent of the seed is of 1st or 2d class quality. The teams in Paran'ginskiy and Medvedevskiy Rayons of the autonomous republic prepared their seed for sowing in an excellent manner. Almost all of the spring crop seed has been improved to sowing condition. [by P. Toyshev] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 5 Mar 83 p 1] 7026

SNOW RETENTION WORK--Yoshkar-Ola, 7 Feb--Each year the workers at the Shoybulakskiy and Azanovskiy Sovkhozes in Medvedevskiy Rayon obtain high yields. They consider one of the principal factors for improving the fertility of fields to be that accumulating winter moisture in the soil. The equipment crews are working in a manner so as to carry out this important agricultural method both rapidly and in a high quality manner. The farms in Sernurskiy, Mari-Turekskiy and other rayons are carrying out their snow retention work in an organized manner. We have been informed by the autonomous republic's Ministry of Agriculture that the task for accumulating winter moisture will be fulfilled in February. [by P. Toyshev] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 8 Feb 83 p 1] 7026

SOIL IMPROVEMENT--Bryansk, 17 Feb--This year the collective of the Bryanskiy Rayon Sel'khozkhimiya is considerably ahead of schedule in applying lime to the soil and hauling organic fertilizers. The Novosybkov, Klimovsk and Kletnya branches of Sel'khozkhimiya are successfully coping with their obligations for providing agrochemical services for the kolkhozes and sovkhozes. This year the detachments of the oblast association will supply the fields of the farms with approximately 3 million tons of organic fertilizer and apply lime to 140,000 hectares of soil. /by V. Zhukov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 18 Feb 83 p 1/ 7026

ORGANIC FERTILIZER DELIVERIES--Orel, 18 Feb--More than 500 mechanized fertility detachments are delivering compost to the oblast's fields. More than 1.5 million tons of organic fertilizer have already been supplied -- this is 500,000 tons more than were supplied by the middle of February last year. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 19 Feb 83 p 1/ 7026

WINTER MUSHROOMS--A driver for the Izhevsk motor vehicle enterprise, O. Subbotin, while cross-country skiing through a snow covered forest could hardly believe his eyes. The middle of winter and an entire tree stump covered with healthy young mushrooms. True, they were almost frozen and appeared somewhat waxy, but their aroma was as strong as one could wish. Even old residents of the area cannot recall the forest yielding such gifts at this time of year, when normally severe cold weather prevails. According to a TASS correspondent, it is the result of the unusually warm weather to which the area has been subjected to recently. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 22 Jan 83 p 4/

UNUSUAL WINTER HARVEST--Ivanovo Oblast--This winter has been very generous in terms of surprises. Cold weather has been replaced by thawing conditions and snow -- by rain. But nature is still surprising us with its wonders. A recent witness of one such surprise was a resident of the settlement of Gavrilovo-Posad, M. Silant'yev. On one particular day in January, he came upon a cluster of mushrooms in his garden. They were conveniently arranged on stumps which remained following a winter-kill of apple trees. "Apparently the spawn was aroused by the unusually warm weather which we experienced recently" stated Mikhail Mikhaylovich, while gathering in the winter harvest of mushrooms. Never before, in my entire 80 years of life, have I witnessed such an event. /by B. Sarkisov/ /Text/ /Moscow TRUD in Russian 1 Feb 83 p 4/ 7026

BUCKWHEAT FIELDS EXPANDED--Ufa, 28 Feb--This year the decision was made at the Kolkhoz imeni Krupskaya in Sterlibashevskiy Rayon to increase the buckwheat sowings to 500 hectares. This farm is serving as a model farm for the use of advanced agricultural equipment in the cultivation of this valuable groat crop. Buckwheat seed is presently being prepared in Sterlibashevskiy, Sterlitamakskiy Aurgazinskiy and other rayons, more fertilizer is being place in storage for this crop and the winter accumulation of moisture is being carried out in a thorough manner on the fields set aside for this crop. /by V. Orlov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 1 Mar 83 p 1/ 7026

SUBSTITUTE BRIGADES--Chelyabinsk--The farmers in Chelyabinsk Oblast have completed snow plowing work on 1 million hectares -- this is more than one half of all of the sowing areas. On leading farms in Kizil'skiy, Oktyabr'skiy and Uyskiy Rayons, substitute brigades have been created which are assuming and standing their watches directly in the field without the motors being turned off. /Text/ /Moscow TRUD in Russian 19 Feb 83 p 1/ 7026

SEED OF HIGH REPRODUCTIONS--Orenburg, 20 Sep--This autumn, with the placing in operation of a large seed cleaning complex at the Sovetskaya Rossiya Sovkhoz, work has been completed on the technical re-equipping of farms of the Elita Seed Production Association, attached to the Orenburg Scientific-Research Institute of Agriculture. Today the Elita has four highly productive cleaning complexes at its disposal and this will make it possible to supply better quality seed to the rayon seed farms. Overall, this year the association will supply the farmers with 138,000 quintals of seed for high reproductions instead of 123,000 as called for in the plan. /by I. Gavrilenko/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 21 Sep 82 p 1/ 7026

COVERED SMUT--In 1979, covered smut caused damage to winter wheat sowings on three farms in Saratovskiy Rayon and in 1980 -- on seven farms. Inspections carried out in four of the oblast's rayons revealed that the Mironovskaya 808 winter wheat variety is susceptible to this disease. The disease was not noted occurring in connection with the Krasnodarskaya 39 and Severo-Donskaya Varieties. Our observations have shown that the degree of covered smut development is determined by the pre-sowing disinfection of the seed. For example, at the Yelizavetinskiy Sovkhoz in Atkarskiy Rayon, where the disinfection work is carried out correctly regardless of the sowing period or the previous crop, the sowings are fully protected against covered smut. The rules for disinfection are observed on this farm. An asphalted platform has been installed for this purpose. Yet on still another farm, the Mayak Kolkhoz in Saratovskiy Rayon, where the disinfection work is not carried out in a sufficiently conscientious manner, the degree of infection of the sowings by covered smut in 1982 amounted to 5.2 percent. We also noted that the degree of contamination of the sowings increased in the absence of crop rotation plans. Thus the planting of winter wheat following winter wheat at the Sergiyevskiy Sovkhoz promoted increased development of the disease by a factor of 1.5 compared to sowings planted following barley and fallow. Data obtained from our computations reveals that when sown during the best periods (third 10-day period in August), the degree of infection by covered smut is less by a factor of two than that for later periods. /by M.M. Pronina/ /Text/ /Moscow ZASHCHITA RASTENIY in Russian No 12, Dec 82 p 46/ 7026 [COPYRIGHT: Izdatel'stvo "Kolos", "Zashchita rateniy", 1982] 7026

AUTUMN PLOWING--Orenburg Oblast--Mechanized detachments are being employed more extensively in Orenburg Oblast for carrying out the fall plowing work. This is especially true, for example, in Abdulinskiy, Krasnogvardeyskiy and other rayons. It was not too long ago that I had a discussion with the 1st secretary of the Severnyy Rayon Party Committee Yu.I. Nikolayev. Not long ago the autumn tilling of soil here was one of the most vulnerable elements of the grain cultivation technology. This derived from the fact that the local farms, owing to climatic peculiarities, commenced their harvest operations later than other farms and quite often completed them during incessant rainfall. This year, almost one half of the autumn plowed land was prepared in July and August. This means that the future sowings will have favorable conditions for development. For example, an important means for combating those factors which adversely affect cropping power, including drought conditions and disaggregation of the fertile layer, is that of intelligently combining mouldboard and sweep cultivation of land. The latter was employed extensively not only on virgin land farms but also on long inhabited old arable lands. There is still one other peculiarity of this present autumn period in Orenburg Oblast. The decision has been made in the oblast to increase the area of clean fallow to 15 percent of all arable land, or to approximately 1 million hectares. For it is the fallow fields that must raise the stability of farming. In the process, special attention is being given to plowing up the fallow in the autumn. Prior to the beginning of October, the area of bare fallow in the oblast exceeded 270,000 hectares. Of 4.7 million hectares of autumn plowed land planned for the oblast this year, more than 3.6 million hectares have already been turned over. /by I. Gavrilenko/ /Excerpts/ /Moscow SEL'SKAYA ZHIZN' in Russian 12 Oct 82 p 1/ 7026

PLOWING OF SNOW--Kurgan, 23 Feb--Some snow still remains in the Trans-Urals region. Thus, packing units are mainly being employed for accumulating it in Chastoozerskiy, Makushinskiy, Petukhovskiy and other rayons throughout the oblast. At the Krasnyy Oktyabr' Kolkhoz in Dalmatovskiy Rayon, snow retention work is being carried out by two Kirovets machines. A rope sweep is stretched out between them, with four snowplows attached to it every 10 meters. Using such an arrangement, the machine operators are processing up to 300 hectares daily. /by I. Shevchenko/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 24 Feb 83 p 1/ 7026

CSO 1824/248

LIVESTOCK

KAZAKH HOG PRODUCTION PROBLEMS

Intensifying Northern Kazakh Hog Breeding

Alma Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 9, Sep 82 pp 24-25

/Article by S. Yerzhanov and B. Kaliyeva, senior economists of the Virgin Land Branch of KazNIIEOSKh: "Peasant Money Box of the Virgin Land"/

/Text/ During the May Plenum of the CPSU Central Committee (1982), it was stated that in the successful solving of tasks aimed at sharply increasing meat production, great importance is attached to developing hog breeding as one of the most rapid maturing branches of animal husbandry.

An important role is played in this regard by the oblasts of northern Kazakhstan, where hog production constitutes 15 percent of the meat sales structure for animal husbandry. The majority of the sovkhozes engaging in hog breeding are located on grain-animal husbandry types of farms in the steppe zone. Up to 78.4 percent of all of the hogs in northern Kazakhstan are concentrated on 270 farms here.

Hog production in Kazakhstan is an important reserve for increasing the production of meat. All of the conditions required are available here for developing this rapid maturing branch. Studies and practical experience have shown that hog production should ideally be carried out in grain production regions. The Kazakhstan virgin land is precisely this type of region.

The process of specialization and concentration of production operations is taking place in hog production just as it is in other branches of animal husbandry. This is expressed in a reduction in the number of small farms and in the implementation of concentration in the production of pork.

Whereas in 1973 the breeding and fattening of hogs in northern Kazakhstan was being carried out by 387 sovkhozes, by 1976 their number had decreased to 282. However, in recent years the number of farms engaging in hog breeding again increased by 79. Hog breeding is of marketable value at 294 sovkhozes and at 67 sovkhozes it has user value. Here an average of 40-60 sows are being maintained and the young pigs obtained are being sold to the population for fattening. This is promoting an increase in the production of meat at subsidiary farms and private plots of citizens, as called for in the decisions handed down during the 26th CPSU Congress and the May (1982) Plenum of the CPSU Central Committee.

A total of 1.2 million hogs is concentrated at all of the sovkhozes in northern Kazakhstan which are engaging in hog breeding; this represents 40 percent of all of the hogs in the Kazakh SSR. Hog breeding is concentrated for the most part in North Kazakhstan and Tselinograd Oblasts, where 679,100 head are being maintained.

The creation of a large grain base in northern Kazakhstan, based upon the mass development of virgin and long fallow lands, has promoted substantial growth in the number of animals and in the volume of pork production. Thus, in 1954, there were 52,300 hogs at sovkhozes and the volume of pork production was 2,500 tons and by the end of the 10th Five-Year Plan the number of hogs had reached 1.2 million head and pork production had increased to 71,200 tons. But the problems concerned with hog breeding remain.

During some years a sharp decline has been observed in the number of animals. For example, in 1976 and compared to the 1971-1975 period, the number of hogs decreased by 35.7 percent. A sharp reduction in the number of animals and their unstable productivity have brought about a reduction of 18.2 percent in the volume of gross pork production.

During the 1st year of the 10th Five-Year Plan and compared to the Ninth Five-Year Plan, the volume of gross pork production decreased by 17 percent. Sharp reductions were recorded in Kustanay, Tselinograd and Pavlodar Oblasts.

In 1979, for example, the sovkhozes in Tselinograd Oblast sold only 96,000 tons of meat (in live weight), including 13,700 tons of pork. Pork constituted 14.2 percent of the overall meat sales. It bears mentioning that the amount of pork sold, compared to the overall volume, is decreasing. Thus, the sales average for 1 year of the Ninth Five-Year Plan was 14,600 tons and during the 10th Five-Year Plan -- 12,300 tons.

The same situation prevails in other oblasts of northern Kazakhstan. Typically, mainly fatty pork is produced here. the demand for which is considerably less than that for meat pork.

In connection with the further development of hog breeding, considerable importance is being attached to lowering material, labor and other expenditures constituting the production cost for the products being produced. It bears mentioning that an increase has recently been observed in the production costs for animal husbandry products, including pork.

Compared to 1976 when a quintal of pork at sovkhozes in northern Kazakhstan cost from 136.4 to 205.5 rubles, by the end of the five-year plan this indicator had increased from 172.3 to 237.3 rubles.

Although the production cost for pork is increasing, this cannot be said for the sales price. The level for the latter is lagging far behind the first indicator and thus hog breeding is for the most part considered to be an unprofitable undertaking in the northern oblasts. Thus, compared to the 1971-1975 period when the average level of unprofitability was 5.3 percent, in 1976 (1st year of the 10th Five-Year Plan) it was 12.8 percent, or more than twice as high, and the average for the 10th Five-Year Plan -- 18 percent.

The chief reason for the unprofitability of hog breeding -- unstable feed base -- especially during certain unproductive years, low level of mechanization at light-commodity farms and weak production specialization and concentration.

One important reserve for raising the profitability of hog breeding is that of increasing the sales prices for the products based upon improvements in their quality.

An analysis of the production costs for pork reveals that in the northern oblasts of Kazakhstan feed annually constitutes on the whole 53.4 percent of the production expenditures, with this figure being even higher for individual oblasts. For example, in Kokchetav and Northern Kazakhstan Oblasts.

This is explained by the excessively high expenditures of feed in a natural expression. During the latter years of the 10th Five-Year Plan and compared to the average data for 1971-1975, the expenditures of feed units per quintal of pork showed a tendency to increase.

A reduction in labor-intensiveness is an important condition for solving the tasks concerned with raising the efficiency of agricultural production. This problem is particularly acute in hog breeding -- a labor-intensive branch of agriculture. The level of labor expenditures in the northern oblasts of Kazakhstan is not decreasing but, to the contrary, it is increasing. During the 10th Five-Year Plan, the level of labor-intensiveness for pork in Tselinograd Oblast amounted to an average of 34.6 man-hours. For oblasts in northern Kazakhstan, this indicator fluctuates from 20.9 man-hours in Kokchetav to 35.8 man-hours in Turgay Oblast.

At the present time, there are two types of farms engaged here in the production of pork. The first group -- specialized hog breeding farms with a complete cycle for the production of goods. The second group includes all of the remaining farms of another specialization, but which nonetheless have hog breeding farms.

Hog breeding in Kazakhstan is a comparatively new branch of public animal husbandry and thus it is only in recent years that it began to develop and to operate along industrial lines.

The conversion over to an industrial basis is being carried out in two forms: through the construction of large-scale hog breeding production processes and the modernization of large older hog farms.

Examples of industrial hog farming operations include: the complexes of the sovkhozes imeni Karl Marks and imeni S.M. Kirov in Tselinograd Oblast, Dvurechnyy and Oktyabr'skiy in Turgay Oblast, Zlatopol'skiy and imeni XX Parts"yezda in Kokchetav Oblast, Yefremovskiy in Pavlodar Oblast and Tokushinskiy, Sovetskiy and Furmanovskiy in Northern Kazakhstan Oblast.

Some operational results achieved by hog breeding complexes in Tselinograd Oblast underscore the great advantages to be realized from converting hog farming over to an industrial basis.

Allow us to cite some data on the economic efficiency of pork production at complexes and hog farms in Tselinograd Oblast.

The greatest results were achieved at a complex of the Sovkhoz imeni S.M. Kirov. Here the production costs were lower by a factor of 1.9 than the average for farms throughout the oblast and feed consumption -- lower by a factor of 2.5. At this same automatic complex, the amount of output produced per worker was greater by a factor of almost 4.2 than the average for farms throughout the oblast.

One important organizational condition for ensuring an improvement in the level of intensity of use of the herd is its structure. With an increase in the proportion of sows, the level of intensity of use of the herd is improving.

An analysis of the structure of the hog herd on various farms in three oblasts of northern Kazakhstan reveals that it is still not meeting the requirements for rational organization of turnover in the herd. The proportion of principal sows, especially in Mamlyutskiy Rayon in Northern Kacakhstan Oblast, is low. This is explained for the most part by the fact that the hogs are being held over for too long a period during fattening on many farms, owing to the existing methods for raising young stock on small hog breeding farms.

Insufficient use is being made in hog farming of the reproductive capabilities of the sows. At sovkhozes in the northern oblasts of Kazakhstan, the average yield in young pigs from a principal sow during the 1971-1975 period was only 13.5 and on some farms it was even less, despite the fact that in recent years a considerable increase in the yield of young pigs has been observed throughout northern Kazakhstan as a whole.

The low indicators for reproduction of the animals and for the production of goods throughout northern Kazakhstan as a whole are associated with the low proportion of principal sows, the level of which during the 10th Five-Year Plan fluctuated within the limits of 4.7-6.1 percent compared to the recommended 7-8 percent.

In connection with intensive utilization of the herd in hog breeding, equal importance is attached to the correct organization of intensive fattening of the animals. The principal organizational-economic requirements imposed with regard to this process consist of ensuring that the fattening operations are reduced in time to the maximum possible degree. In order to achieve a definite live weight within a prescribed period of time, the required level of productivity must be ensured. On the average for the 1971-1975 period, at sovkhozes in northern Kazakhstan, an average daily increase in weight of 240 grams was obtained during the fattening of young pigs older than 2 months of age (delivery weight of 25.8 kilograms). This indicator was even lower during the 10th Five-Year Plan -- 233 grams. Computations have shown that the fattening of an animal to 105 kilograms at such a low average daily weight increase will require 343 days. An increase in the average daily weight increase to 500 grams will make it possible to reduce the fattening period to 160 days and to reduce feed consumption per unit of weight increase by a factor of two.

All of this will make it possible to raise the level of profitability for hog breeding in the northern oblasts of Kazakhstan.

The experience of leading farms testifies to the fact that the skilful use of progressive methods in hog breeding and the unceasing desire to develop and improve this branch are promoting improvements in labor productivity and in the growth of output production on the farms.

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Article Elicits Response

Alma Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 1, Jan 83 p 30

/Article: "Peasant Money Box of the Virgin Land"/

/Text/ Such was the title of the article by S. Yershanov and B. Kaliyev, senior economists of the Virgin Land Branch of KazNIIEOSKh, which was published in Issue No. 9 (1982) of the journal. We have received responses from specialists attached to the Main Administration for Science and Introduction of the Ministry of Agriculture.

The article was published under the heading "Attention: A Critical Signal!" It is believed that there was good reason for this. The authors thoroughly analyze the status of this important branch of animal husbandry -- hog breeding -- in the northern oblasts of Kazakhstan. It has been pointed out quite correctly that hog breeding in Kazakhstan is an important reserve for the production of meat. And one very important aspect is the fact that this branch can be operated on a profitable basis in the virgin land zone by increasing the number of animals. And this is truly so. Today hog farming provides 15 percent of the meat being produced in the republic. And this meat is being produced in the virgin land oblasts of Kazakhstan. Eighty percent of all of the hogs in northern Kazakhstan are concentrated at 270 farms.

Yes, we are of the opinion that such specialization is necessary. But indeed this branch can have user value. It is possible for 60-70 sows to be maintained at any farm, with the offspring being sold to the population and subsidiary farms for further raising. At such a time, hogs will constitute a "peasant money box." It bears mentioning that not all of the grain farms have smaller farms for the raising of "fast maturing" animals. Inexpensive plans for farms are not available for all of the virgin land grain sovkhozes and they should be developed. The scientists of Kazakhstan are under a great obligation to the practical workers. During the latter years of the 10th Five-Year Plan and the beginning of the 11th, the expenditures for feed units per quintal of pork have been increasing. And indeed feed recipes are available which provide economies in the use of grain. These problems also surfaced during a discussion of the article in the main administration.

Certainly, hog breeding is neither a traditional nor new branch in the republic and yet failure to devote thought to its future is equivalent to excluding tens of thousands of tons of valuable products from the meat balance.

We must carry out a great amount of work associated with developing recommendations for the management of hog breeding operations. For example, an optimum intensity of use of the herd and determining its structure. However, it can be stated in advance that an increase in the proportion of sows serves to define this intensity. In addition, as yet only weak use is being made in hog production of the productive potential of the sows, especially the principal sows.

The main administration also hopes that the questions raised in the article entitled "Peasant Money Box of the Virgin Land" will also be examined by the oblast agricultural administrations and by sovkhozes and kolkhozes in the northern oblasts of the republic. The discussion has not been completed; it is continuing.

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NEW PURCHASE PRICES FOR AGRICULTURAL PRODUCTS SPECIFIED

Minsk SEL'SKOYE KHOZYAYSTVO BELORUSSII in Russian No 2, Feb 83 pp 30-31

/Article by A.M. Pshenko, head of a department of the State Price Committee of the Belorussian SSR: "New Procurement Prices"/

/Text/ The May (1982) Plenum of the CPSU Central Committee developed large-scale measures for strengthening the kolkhoz and sovkhoz economies and raising their material interest in increasing the production and sale of agricultural products to the state. This will make it possible to solve more successfully the problems concerned with implementation of the food program.

Included among these measures -- raising the procurement prices for a majority of the types of agricultural products being sold to the state by kolkhozes, sovkhozes, other agricultural enterprises and organizations and also by the population. The new procurement prices were placed in operation on 1 January 1983. Of the field crop husbandry products, considerable increases took place in the prices for grain crops, potatoes, sugar beets and individual types of vegetables and fruit.

Thus for a ton of rye the farms will obtain 170 rubles, fodder barley and oats -- 130 rubles, buckwheat -- 400 rubles. The price for brewing varieties of barley remains at the former level -- 180 rubles.

The new procurement prices for potatoes, distinct from the former ones, were established on a differentiated basis according to the delivery periods. This is stimulating the farms into storing these products in the production areas and selling them at higher prices in the spring of the following year.

From 1 September to 1 December, the prices for food potatoes were established in the amount of 125, from 1 December to 1 March -- 140 and from 1 March -- 155 rubles per ton.

The prices for potatoes to be used for industrial processing were also differentiated according to periods. The price for such potatoes from 1 September to 1 December was established in the amount of 90 and from 1 January -- 110 rubles per ton.

The bonuses added on to the procurement price for raised starchiness compared to the basic figure -- 6 rubles per ton-percent for potatoes used for industrial processing.

The system of making payments for potatoes used for industrial processing in the canning, food concentrate and vegetable drying branches of the food industry, in accordance with the prices for food potatoes, is also retained.

The procurement prices for early potatoes are raised. Their levels are as follows:

from the beginning of procurements to 30 June	400 rubles per ton
from 1 to 10 July	310 rubles per ton
from 11 to 31 July	250 rubles per ton
from 1 to 20 August	180 rubles
from 20 to 31 August	160 rubles

The sale to the state of highly valuable varieties of potatoes (Temp, Ogonek, Kandidat, Razvaristyy, Gatchinskiy, Detskosel'skiy, Zhitomeryanka, Komsomolets, Olev), for use in state trade within the republic, is also being stimulated by raised procurement prices.

From 1 September to 30 November the prices for such potatoes are established in the amount of 145, from 1 December to 29 February -- 160 and from 1 March -- 175 rubles per ton.

When shipping such potatoes (with the exception of the Kandidat and Razvaristyy varieties) beyond the borders of the republic, in accordance with inter-republic deliveries, raised prices are paid for them provided the potatoes are packaged in bags or other light packaging materials. If these conditions are not observed, the payment made is the same as that for the usual food potatoes.

On the whole, the procurement prices for potatoes have been raised by 18.2 percent.

During the current year, farm income will be increased by roughly 34 million rubles as a result of the raised prices for potatoes.

More than 10 million rubles will be used for raising the prices for sugar beets. The new price is established in the amount of 58 rubles per ton, or 16 percent higher than the existing price.

The procurement prices for the principal types of vegetables, mainly cucumbers, tomatoes, cabbage, carrots, table beets, onions, garlic and others, have been raised by 11.5 percent. The prices for strawberries, gooseberries and raspberries have been raised by 40-60 percent. The additional income realized from the vegetables and berries will amount to 5.5 million rubles annually.

It has been stipulated that non-standard fruit and vegetable products which are suitable for use in fresh or processed form and standard highly perishable products that are delivered over and above the volume called for in a contractual agreement are paid for by the procurement organizations in accordance with the conditions and prices agreed upon in the contract.

Vegetables sold to the state by the population are paid for at the prices agreed upon, but no higher than the existing procurement prices.

The trade organizations and public catering enterprises pay for scarce vegetables (celery, dill, parsley, parsnip, spinach, dock and others) procured from kolkhozes and sovkhozes at the prices agreed upon and they sell them at prices approved in the established manner, with the purchase prices taken into account.

With the introduction of raised procurement prices for flax products, even more favorable conditions are being created for the production and sale of such products to the state.

In 1983, these raised prices will provide the kolkhozes and sovkhozes with more than 30 million rubles worth of additional earnings.

The prices for the flax products are differentiated mostly depending upon their quality.

For example, let us take flax stock No. 0.5. The price for it has been established at 200 and for No. 1 -- 460 rubles per ton. Stock quality No. 2 warrants a payment of 880 rubles per ton.

A similar situation prevails in the case of the prices for flax straw.

It has been established that flax stock No. 0.75 and flax straw No. 1 for the following bred varieties will be paid for in accordance with the procurement prices and with the indicated bonuses:

Orshanskiy 2 -- 15 percent;
Vpered, Pskovskiy 359 and Progress -- 10 percent;
Svetoch, Shchokinskiy -- 5 percent.

Distinct from the system which existed earlier, commencing on 1 January 1983 bonuses were established for adding on to the procurement price for spinning flax products, depending upon the periods during which they were delivered to the state.

When flax straw No. 1.25 or higher is delivered in July - August, a 20 percent bonus is paid out and in December -- 5 percent. Similarly, when turning over flax stock -- 30 and 10 percent respectively. Scutched flax No. 12 or higher, delivered in September, is paid for with a bonus amounting to 50 percent and in December -- 10 percent added on to the procurement price.

All of this stimulates the farms into selling flax products to the state at earlier times.

New prices have been established for the meat of large-horned cattle: for animals in a high state of nourishment -- 1,920 rubles per ton of live weight, average state of nourishment -- 1,600, lower than average state of nourishment -- 1,200 and poor state of nourishment (non-standard) -- 960 rubles per ton of live weight. The bonuses established earlier -- 50 and 35 percent for the sale of heavy-weight cattle -- are retained.

Category I (bacon) hogs are sold to the state at the price of 2,310 rubles per ton of live weight, Categories II and III (meat and fat) -- 2,100, Category IV (hogs and sows) -- 1,575, Category V (young pigs - suckling pigs) -- 3,000 and lean non-standard hogs -- 1,260 rubles per ton of live weight.

Simultaneously with the prices for large-horned cattle, hogs and sheep in live weight, the prices for livestock in dressed weight were approved in conformity with the existing conversion coefficients.

The kolkhozes, sovkhozes and the population will receive 16 million additional rubles from the sale of domestic poultry to the state, the prices for which have been raised by 11.6 percent. A price of 2,300 rubles per ton of live weight has been established for geese, for ducks -- 2,000, for turkeys and guinea hens -- 2,600 and for chicks and broilers -- 2,100 rubles per ton of live weight. The increases in prices compared to the existing ones were 43.7, 21.2, 16.1 and 7.1 percent respectively.

For raising the procurement prices for milk, the republic's farms were allocated 119 million rubles. Taking into account the incentive for the quality of the products sold, the price for 1st grade milk was established in the amount of 315, 2d grade -- 275 and poor quality -- 230 rubles per ton of basic fat content. The payment for cream sold by the farms will be carried out at the rate of 65 kopecks for 10 percent fat in 1 kg of cream.

On the whole, the prices for milk were raised by 11 percent.

Commencing 1 January 1983, 10 rubles per ton will be paid out for cooling the milk sold to a temperature no higher than 10° Centigrade, instead of the additional payment of 5 rubles added on to the procurement price.

The income of the population from the sale of milk to the state will be increased considerably. For each ton of milk sold with no determination made as to grade 275 rubles will be paid and for milk sold on the basis of contracts concluded with kolkhozes, sovkhozes and other agricultural enterprises the payments will be carried out in accordance with the contracts, but they will not be higher than the established state procurement prices.

The procurement prices for wool are raised an average of 12 percent, leather raw materials, furs, skeepskins and fur raw materials -- 100 percent, cage-raised mink pelts -- 10 percent, cage-raised fox pelts -- 20 percent and intestinal and rennet raw materials -- 50 percent.

On the whole, the kolkhozes, sovkhozes and the population will receive more than 270 million additional rubles annually as a result of the raised procurement prices for agricultural products.

In addition to raising the procurement prices, the decision handed down during the May (1982) Plenum of the CPSU Central Committee called for the introduction on 1 January of 1983 of a bonus added on to the procurement prices for products sold to the state by low profitability and unprofitable kolkhozes and sovkhozes.

The republic was allocated 555 million rubles for this purpose.

Bonuses added on to the procurement prices are established for farms which operate under poor natural-economic conditions. The maximum amount of such a bonus must not exceed 75 percent of the procurement price. The payment of bonuses is carried out by the procurement organizations simultaneously with the computations for products sold and credited towards fulfillment of the plan for sales to the state, with the exception of products sold on the kolkhoz market to manual and office workers of sovkhozes and used for public catering, pedigree livestock, internally produced eggs used for incubation and also the initial weight of cattle turned over to cattle fattening farms for fattening and maturing by the procurement organizations.

The established bonuses must serve mainly to cover the losses of those farms which operate under worse natural-economic conditions than existed on the average during the 1979-1981 period and also for raising the profitability of unprofitable and low profitability farms roughly to the same level.

Thus, for the very first time, a considerable group of kolkhozes and sovkhozes will operate under roughly the same conditions, thus making it possible for them to overcome rapidly the lag that has developed and, on this basis, to increase the production and sale of agricultural products.

At the present time, the task consists of establishing effective control over the correct use of the new procurement prices and bonuses by all of the ministries and departments included in the republic's agroindustrial complex. Only if this is done will the price and bonus mechanism operate effectively in their behalf.

The State Price Committee for the BSSR has issued the required number of price lists for the new procurement prices and, jointly with the BSSR Ministry of Agriculture, it has made them available to each rayon and farm. These prices were also discussed in Issue No. 12 for 1982 of "Express-Information On Questions Concerned With the Price Formation for Agricultural Products," which was also distributed to all of the republic's farms. A number of measures have been outlined for intensifying control over the observance of state price discipline.

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AGRO-ECONOMICS AND ORGANIZATION

HORSES, EQUIPMENT NEEDED FOR KIROV OBLAST PRIVATE PLOTS

Moscow TRUD in Russian 29 Jan 83 p 2

/Article by V. Sitnikov, Kirov Oblast: "A Hunchback Horse for the Farmyards"/

/Text/ The period of making preparations for spring is at hand. The tractors are buzzing about, turning over the stubble and revealing a grey layer, giving the land an entirely new appearance. And there is a great amount of activity on the private plots. The gardeners are digging up their gardens using polished shovels which reflect the sun's rays. White smoke curls up from the low areas: last year's haulm is being burned up and gay and happy voices can be heard echoing throughout the spring expanse.

Of 2.3 million hectares of sowing area in our Kirov Oblast, 43,000 hectares are occupied by private plots and orchards. This is slightly less than 2 percent. But these 2 percent, according to statistical data, furnish the oblast with almost one half of the gross yield of potatoes and 60 percent of the vegetable harvest. And in the private production of fruits and berries, much more is grown than on farms of the Plodoovoshchprom Trust. Private animal husbandry appears to be in fine shape; it furnishes more than one fourth of all animal husbandry products. Here the numbers of hogs, sheep and goats are increasing. Yes and there are no longer different opinions as to whether or not a peasant should maintain livestock or work a garden. If you live on the land, should you act in a city manner and buy everything in a store? In all probability the farmyards could develop in a more active manner and produce better returns. But the farmyards too have their own complications, which I would like to discuss.

Initially the digging personnel on the spring fields shouted to one another in a gay and cheerful manner, but thereafter they gradually began to fall silent. Those who live off the land have a heavy burden. The old men and women in the rural areas just barely manage to take care of the gardens. And do you think that it is easier for a milkmaid or a driver to pick up a shovel at the end of a difficult day? This turns out to be a second shift and a more difficult one. Moreover, this happens not only in the spring but also in summer, when the potatoes must be hilled, or in the autumn when the crops must be harvested. Yes and are the private plot concerns of a peasant restricted only to a garden?

I recall a discussion I had with Ivan Vasil'yevich Sharapov in the village of Zachernushka in Khalturinskiy Rayon:

"A cluster of three villages serves our brigade. Here there is a barn for 100 head of cows, a calfhouse for 200 and a sheep farm. But there are only four horses in the stable. How can a kolkhoz member manage? He must till his garden, he needs firewood and if he is not well -- he will have to turn in to a hospital and does this mean that all of his work must be transferred to others? If for all of these needs he turns to the garage for equipment, then neither the drivers nor ourselves will have time for general kolkhoz work. Owing to the fact that few horses are available, the members of kolkhozes quite often do not cultivate fully their plots and they discontinue sowing grain crops, which are needed for the private livestock. If the kolkhoz members sowed their tracts, then 500-600 kilograms of barley alone would be available. Yet today they are feeding prepared grain to the livestock. Is this not a crime?"

At least it is a problem!

Vasiliy Alekseyevich Moshkin of Verkhoshizhem'ye Settlement and Dmitriy Ivanovich Trushkov, a resident of the village of Moskva, know no rest during the spring. Having purchased horses for private use, they provide assistance to their Verkhoshizhem'ye neighbors in coping with the inconveniences of peasant life: they plow the gardens, haul firewood and other freight and last year they procured more than 1 ton of hay for the Verkhoshizhemskiy Sovkhoz. The neighbors owed them a great debt of gratitude: usually the grasses from these cuttings disappeared under the snow.

However, a horse for private use is an extreme rarity. A 30 year old law does not encourage this, viewing the owner of a horse as an inveterate private trader. One is not authorized to acquire a horse unless he has been granted special permission by the oblast executive committee. A certain lack of logic is manifested here. To have a 90 horsepower motor vehicle while, if you please, a horse of 1 horsepower is considered undesirable. What do we have to fear at the present time, tell me! What social harm can the owner of a horse inflict upon our life style at the present time or to social production, assuming that such ownership eases our daily routine and that of elderly rural residents who perform the laborious work of digging up the gardens?

Moreover, the fears of those who believe that with a relaxation of the strict law everyone without exception will begin purchasing horses are in vain. The maintenance of a horse involves many problems, especially in view of the present shortage in wagons, harness gear, plows, harrows and also the need for procuring a fair amount of feed.

Thus the chief hope, certainly, rests with public horse breeding. For example, a horse is irreplaceable for many types of work at the Kil'mez Rossiya Kolkhoz. For example, let us take haying operations -- it is carried out mainly using horses. Why? It is for the very simple reason that they, as opposed to powerful tractors, do not spoil the meadows or land. Here haying operations are carried out in a holiday atmosphere with everyone, both young and old, participating in them. One has only to see the affection that children shower upon the horses and the unforgettable joy they experience in doing so. It should be noted that here they do not use a powerful Kirovets machine for handling a 200 kilogram load and yet horses are used for plowing up the gardens, hauling firewood and for marriage processions. All of this work is carried out in a proper, intelligent and profitable manner.

But the more I travel about the rural areas, the more I see a different picture: complete indifference on the part of farm leaders with regard to these matters. Although nobody argues: a requirement nevertheless exists for organizing services in the rural areas and facilitating labor on the private plots. Even highly mechanized farms require horses -- work can be found for them even in public production. But there are enough problems in animal husbandry and horse breeding is not a mandatory branch and nobody requires a report on it. They think this way and they act in this manner.

Nor is the development of the private economy being held back only by the absence of horses. Indeed, we are living, as the saying goes, in an age of equipment. A steel horse does not hinder a live horse. Only what type of steel horse is it to be?

Let us take this same busy spring period. The plowing of a garden coincides with the sowing operations and it is difficult to imagine a chairman diverting equipment from the kolkhoz fields for use on the private plots. One cannot till a garden himself. Moreover, in many instances a large and heavy tractor creates more work than it accomplishes: an area may not be suitable for its capabilities and fences may have to be dismantled. Where are the mechanisms for facilitating labor on the private plots? At one time we drew the conclusion that with complete electrification there no longer would be a need for old fashioned manual means. But where does one obtain electrically driven units for preparing feed for livestock? Or, for example, manual mowers with small motors? All of this has been created and is available, but where does one purchase it?

Upon arriving at the settlement of the training farm of the Kirov Agricultural Institute, I glanced at mechanic Yakov Alekseyevich Kopanev. I recall how he and four or five diggers, all armed with shovels, complained regarding their difficult work.

And now a satisfied and even festive Yakov Alekseyevich was opening the door of a garage for me as he stated with respect:

"Here it is!"

And I saw a small two-wheeled tractor which had been improvised out of an obsolete scooter. Yakov Alekseyevich had obtained the levers and plowshare from an old horse-driven plow and he had attached a harrow.

This "hunchback-horse," as Yakov Alekseyevich referred to his tractor, turned out to be both smart and industrious. It can plow to various depths, till inter-row spacings, dig up potatoes and in the winter a frame can be attached to it, it can serve as a yard-keeper, it can clean paths and remove snow from entrance-ways. And it is also capable of performing still another operation:

it can carry out mowing operations during the summer and the "hunchback-horse" can be used for haying work as well.

The forecasts of the creators of the "hunchback-horse" (Yakov was assisted by his son Aleksey) have been borne out. In an unusually rapid manner the Kopanev's harvested potatoes, conducted autumn plowing and provided assistance to neighbors. The Kopanev's presently are receiving letters from all parts of the oblast. The people are requesting the drawings for the unit and they are being sent to them.

There is a great need for mechanical assistants. This year the various skilled craftsmen are utilizing their resourcefulness and attempting to create their own tractors rather than bicycles. Petr Kirillovich Voronov of the Kumeny Settlement produced a garden tractor using a motorcycle and a lathe hand at the Murashi Technical Services Station for Freight Cars, Vasiliy Dmitriyevich Malkov, developed his own garden tractor using various types of written off parts. The chief agronomist at the Dudarevskiy Sovkhoz in Veshenskiy Rayon of Rostov Oblast, Ivan Denisovich Romanenko, produced a home-made caterpillar tractor which has four speeds. It is convenient, very utilitarian and weighs only 60 kilograms. A competitive review of home-made units conducted by Central Television is recalled -- it included many interesting and highly maneuverable garden tractors!

Although we can certainly be delighted with these developments, there is still one other question. How long must we remain satisfied with such primitive steps?

There is a plant-produced "steel horse," but it can be stated directly that its cost is by no means consoling. For example, the brainchild of the Kutaisi Miniature Tractor Plant imeni Konstitutsiya SSSR, the Rioni-2, is heavy not only in the sense of weight -- 200 kg, but also in terms of price -- 2,000 rubles. Even in the fact of a critical need, there are very few who are willing to purchase it for private use.

The steel "hunchback-horse" of the Minsk Tractor Plant has proven to be more successful. But the enterprise is still producing this machine in miserly quantities. I am aware that the production of garden tractors is slowly being organized at the Ufa Motor Construction Production Association. And mention must be made of the fact that discussions have been underway for some time concerning garden tractors and agricultural machines for the private plots and that the workers in agricultural machine building have engaged to an extreme in wordy discussions. And as yet no action has been taken -- everything is proceeding slowly and with no haste being displayed. How many years do the peasants still have to wait and how many years must they continue to perform heavy labor and employ on their gardens implements which were used by their ancestors?

It must not be forgotten that even a steel "hunchback-horse" requires harness gear. And the list of implements required for it also constitutes a problem, the solving of which is not being studied by anybody. And indeed these implements -- towing mechanisms and tools -- are required immediately.

Generally speaking, the thought is quite clear: the private plots require both live horses and steel "hunchback-horses." And we must not close our eyes to this fact if we wish to increase substantially the output of the peasant plots. There is another important aspect of the problem which bears mentioning. To ease labor on the private plots is equivalent to displaying concern for the health of the people. In this instance, we are dependent not upon public health services but rather upon agricultural machine building, the leaders of farms and many other people who can and must furnish assistance for the peasant plots.

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TILLING AND CROPPING TECHNOLOGY

MEASURES FOR IMPROVING PLANT PROTECTION SERVICE, TECHNOLOGY

Moscow ZASHCHITA RASTENIY in Russian No 1 Jan 83 pp 4-7

/Article by N. M. Golyshin, acting academician-secretary of the Department of Plant Protection of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin: "To Increase the Efficiency of Plant Protection"/

/Text/ The November (1982) Plenum of the CPSU Central Committee again confirmed the demand to utilize all the possibilities for the acceleration of scientific and technical progress and for the introduction of the achievements of science, technology and advanced experience into production. Need we say how urgent this task is for us, agrarian scientists? The USSR Food Program posed serious problems for all sectors of agricultural science without exception, including, of course, for plant protection. I would like to discuss the ways of solving some of these problems.

Concentrated and specialized agricultural production ensuring significant economic advantages enhances the role of intensive crop rotations, in whose structure the volume of areas sown with highly valuable crops increases. It must be taken into consideration, however, that this leads to a more rapid accumulation of harmful insects, mites, nematodes, pathogenic agents and weeds in agrobiocenoses. The growing application of mineral and organic fertilizers, reclamation measures and so forth also contribute to their accumulation.

The task of a significant reduction in harvest losses due to pests, diseases and weeds set by the 26th CPSU Congress can be accomplished by means of overall (integrated) systems of plant protection based on a harmonious combination of all methods, agents and techniques--agrotechnological (including the cultivation of stable varieties and organizational-economic and other preventive measures), chemical, microbiological and biological--with due regard for the criteria of the population or thresholds of harmfulness of harmful organisms.

Despite the general tendency toward a decrease in the proportion of chemical control in integrated plant protection, the utilization of pesticides in agriculture will increase. This is due to many reasons.

First of all, to the high economic efficiency of chemical agents. When instructions and regulations for an efficient application of pesticides are observed strictly, their harmlessness for man, animals and the environment is guaranteed.

As experience shows, in most cases truly practical and economically substantiated alternative chemical methods of control, which could be realized in practice in the visible future, are not available. The utilization of entomophages can meet no more than 30 percent of the total need of farms for pest control agents. The possibilities of the biological method of protection of rodents and weedy vegetation against diseases are still not great.

The harmfulness of some pests and pathogenic agents is sharply intensified periodically (suffice it to recall the recent mass appearance of the beet webworm and the high level of harmfulness of the bug, the Colorado beetle, the beet pest, the corn ear worm, the orange whitefly, grey and storage rot of sunflower seeds, late blight of potatoes and tomatoes, downy mildew of onions and tobacco and mildew of grapes) and they can be suppressed only by means of the chemical method.

Practical selection is still unable to offer new varieties and hybrids with a complex resistance to or tolerance for the majority of harmful organisms. Furthermore, the latter possess a high plasticity and quite rapidly create more pathogenic forms or races, which, spreading, infect resistant varieties. The initially wilt resistant cotton varieties of the Tashkent group can serve as an example.

All this explains the increase in the world need for pesticides. For example, in 1975 the need for pesticides amounted to only 5,500 million dollars, including for herbicides, 2,300, for insecticides, 1,950, for fungicides, 1,035, for fumigants, 90 and for growth regulators, 100; in 1980 a total of 7,500, 3,400, 2,450, 1,345, 100 and 120 respectively; by 1985 a total of 10,150, 5,140, 3,100, 1,600, 110 and 150 and by 1990 a total of 13,850, 7,700, 3,900, 1,880, 120 and 180 are expected.

The production and deliveries of chemical plant protection agents to agriculture in our country reflect the general world tendency. For example, for 1985 a total of 680 are to be supplied (in conventional units) and for 1990, a total of 750 to 790.

At the present stage the organizational principles of the plant protection problem are very complex. A number of ministries and departments participate in its elaboration. A prompt and positive accomplishment of tasks by one department has a positive effect on the operation of other departments, while unaccomplished tasks have a negative effect on the problem as a whole.

At present the "List of Chemical and Biological Agents for the Control of Pests, Plant Diseases and Weeds and Plant Growth Regulators Permitted for Application in Agriculture for 1982-1985" includes about 350 types of preparations. The average toxicity of pesticides for warm-blooded animals has been lowered. Whereas in 1960 it was 147.5 mg/kg and in 1970 it was 665 mg/kg, in the last few years it has been about 980 mg/kg. However, the effectiveness of the chemical method is growing. The total value of the harvest preserved during the 9th Five-Year Plan as a result of the control of diseases, pests, weeds and desiccation was 28,500 million rubles and during the 10th Five-Year Plan, 36,714 million rubles and net profit per ruble of expenditures, 4.75 and 6.9 rubles respectively. A high profitability was attained. However, plant protection makes it possible to obtain a higher effect.

For example, our chemical industry also produces preparations whose application agriculture has already rejected. The need for chemical protection agents in terms of volume is met only 60 percent, including for fungicides, 40 percent and for herbicides, 50 percent and in terms of assortment, even below this--approximately 35 percent. In connection with this the Ministry of Mineral Fertilizer Production must examine the problem of the construction of small production units with a view to setting up the output of a broader assortment of pesticides.

The list cites several dozen preparations for the protection of some crops (fruits, grapes, potatoes and so forth). At the same time, there are also crops (fodder, leguminuous and cereal crops, sunflower seeds, soybeans and some vegetable crops), for which there are hardly any pesticides. A number of insect fungicides are recommended in doses approximately 25 to 30 percent higher than those applied abroad. The State Commission for Chemistry must pay serious attention to this. It and the toxicological laboratories of the All-Union Scientific Research Institute of Plant Protection should conduct state tests of new preparations on all crops without exception and work on an expansion of the sphere of application of certain pesticides, especially those produced by industry or received from abroad. The data of these tests must be generalized and analyzed by means of computers, which will make it possible to create an overall assortment of plant protection agents.

Often the norms indicated in the list are not refined by zonal research institutes, but are transmitted for local recommendations mechanically, which leads to an overexpenditure of scarce preparations. In the country's various ecological zones, when agricultural crops are grown industrially, it is necessary to constantly work on a refinement of the norms of expenditure, periods of application and frequency of treatment, to study mixtures of pesticides for different specific purposes with a simultaneous application, to investigate the aftereffect and appearance of resistant forms of harmful organisms under the effect of a prolonged application of the same types of preparations, to develop ways of overcoming this resistance, to determine the effect of pesticides on useful organisms, to efficiently combine various methods of control in integrated systems and to deal with the rationing of preparations and with all associated problems ensuring a high effectiveness of chemical protection agents and their safety for man and the environment.

The biological method is developing constantly, occupying ever firmer positions in integrated systems. Whereas during the 9th Five-Year Plan the average annual volume of its application was 7.7 million hectares (including 1.5 million hectares, treatment with microbiological preparations and 6.2 million hectares, by means of entomophages) and work on the preservation of useful entomofauna was carried out on 0.83 million hectares, during the 10th Five-Year Plan these indicators were 14.6 (4.5; 10.1) and 5.9 million hectares and in 1981 they were 19.8 (7.2; 12.6) and 7.8 million hectares respectively. According to the estimates of specialists the biological method produces an annual economic effect of about 19 million rubles. Furthermore, the use of this method in integrated protection made it possible to lower the number of chemical treatments in a number of republics.

The biological control of harmful objects in cotton sowing republics, for example, in Tajikistan and Uzbekistan, acquires special importance. A total of 369 production biolaboratories and biofactories, where 171 mechanized lines for Trichogramma breeding (139 of which already function) and more than 3,000 screened boxes have been installed, now operate in the Uzbek SSR. In 1982 more than 2.5 million hectares of cotton and other crops were treated with biological agents, including more than 1.2 million hectares with entomophages. This work was especially well organized in Namangan, Fergana, Tashkent and Andizhan Oblasts.

However, the scale of development of the biological method and its introduction into practice are insufficient. The scarcity of the manufactured assortment of biological agents is one of the reasons for this. The Main Administration of Microbiological Industry produces only 3 out of the 12 domestic microbiological preparations recommended for application (without taking into consideration preparative forms) and their quality is quite low. It is also necessary to constantly work on an expansion of the specific composition of entomophages suitable for mass industrial breeding and to improve the methods of their production and introduction into practice.

It is necessary to improve mechanized lines for Trichogramma breeding, to increase the number of biofactories in the system of the Ministry of Fruit and Vegetable Industry and the USSR State Committee for Forestry, to develop express methods of evaluation of the efficiency of various types of entomophages, to recommend measures to increase their fertility, search capability and resistance to unfavorable factors and to find additional natural hosts for breeding, as well as artificial nutrient media. The problem of a prolonged storage of the egg parasite and its mechanized settlement will also have to be solved. A number of the techniques of the biological method must be coordinated with the technology of cultivation of agricultural crops.

Recently significant attention has been paid to genetic methods of control of harmful organisms, as well as to methods based on the utilization of biologically active substances--pheromones, sterilants, antifeedants and hormonal preparations. Their application in agriculture and forestry has made it possible to lower the volume of insecticide treatments. Giving up even one spraying on the basis of the utilization of pheromone traps on a countrywide scale makes it possible to save about 6,000 tons of pesticides.

In our country the pheromones of about 20 species of insects have been synthesized and the technology of their application has been developed and is being introduced into practice in the country's various zones. However, the further development of this direction and its introduction into practice are hampered by the fact that to this day state tests of pheromones have not been organized and their industrial synthesis and the manufacture of traps and glue have not been set up.

As is well known, in the last few years the country's breeders together with immunologists have developed a number of resistant varieties and hybrids. However, areas occupied, for example, with varieties of grain crops resistant to diseases comprise only 10 to 15 percent and to pests, even less than that.

In practice, there are no varieties and hybrids with complex resistance. At present the State Commission for Strain Testing receives only about 10 percent of varieties and hybrids possessing resistance to or tolerance for some species of harmful organisms from selection centers and approximately 30 percent of the varieties transferred for state tests are offered for regionalization. Therefore, if it is assumed that all resistant varieties and hybrids without exception are recommended for introduction, their share will comprise only one-third of the number of regionalized varieties and hybrids. At the same time, cases when cultivated resistant varieties produce a significant economic effect for a long time are well known. For example, wheat varieties resistant to frit flies and grain sawflies additionally ensure no less than 3 million tons of grain annually. In 7 years wilt resistant cotton varieties of the Tashkent group also produced a significant economic effect. The cultivation of potato varieties relatively resistant to the Colorado beetle (Stolovyy, Iskra, Temp and so forth) makes it possible to reduce chemical treatments by no less than one-half and during some years to give them up completely.

However, the state of immunological research and selection for resistance lag behind modern requirements. A strategy of development, regionalization and exchange of varieties has not been developed. The genetic and physiological-biochemical mechanisms of associated evolution in various "host-parasite" systems have not been studied sufficiently. The forecasting of the variability of structure of the populations of phytopathogens has not been set up, which leads to a rapid decline in resistance in newly developed varieties and hybrids. The genetic heterogeneity of agricultural plants has not been studied and, therefore, the gene pool of immunity of most cultivated crops, especially wheat, cotton, sugar beets, flax and oats, is extremely low. It is necessary to concentrate efforts on the development of work on immunity and to expand research on the resistance of plants to stress factors (lowered temperatures, drought and so forth) and to the most harmful organisms. Special attention must be drawn to the development of express methods of evaluation of resistance, establishment and systematic replenishment of a resistance gene bank, introduction of resistance genes from wild and primitive species during the development of industrial varieties, detection of promising resistance donors and development of varietal agrotechnology and techniques of breeding of seeds of new varieties. The State Commission for Strain Testing during the regionalization of a new variety should take into consideration resistance factors, giving them preference during regionalization.

A long-term forecast of the development of pests and diseases is of great importance. It serves as the basis for the planning of the volumes of work and for the determination of the need for pesticides and other material and technical resources. The utilization of forecasts increases the effectiveness of protective measures by 30 to 40 percent.

Scientific research institutions have developed and now widely introduce 18 all-Union and more than 60 zonal overall systems for the protection of basic agricultural crops from more than 100 forecast species of types of pests and diseases. There are also individual recommendations for the control of the most dangerous objects. Systems and recommendations envisage an efficient utilization of agrotechnological, chemical, biological and organizational-economic measures, whose correct and prompt application makes it possible to obtain stable harvests, to ensure an optimum phytosanitary state of crops and to lower residual quantities of pesticides in plant products and environmental pollution.

The economic harmfulness thresholds envisaged in the systems make it possible to carry out chemical treatments only on the areas where there is a threat of significant harvest losses and this makes it possible to reduce the expenditure of insecticides by 30 to 40 percent. Economic thresholds have been introduced on 30 million hectares.

The systems also offer specific measures for an efficient utilization of pesticides. For example, an alteration of insect acaricides of various chemical classes and microbiopreparations was recommended on the cotton plant against resistant populations of a set of pests. In Parkharskiy Rayon in the Tajik SSR on 14,000 hectares this produced an economic effect of about 60 rubles per hectare, the yield of raw cotton rose by 4.5 quintals per hectare and labor expenditures were lowered by 2.65 man-hours per hectare.

All the latest effective measures of control are immediately introduced into the systems. For example, a protective vaccination of tomatoes with weakly pathogenic strains against virus diseases has been incorporated. Glue traps and a synthetic attractant (of domestic production) for codling and plum fruit moths, attractant-glue traps for the European grape moth, traps with sex pheromones for the detection of foci of the potato moth and the San Jose scale, pheromone traps for inspection and signaling of the periods of control of the corn ear worm, the gypsy moth and the black arches moth, the entomopathogenic fungus verticillium and encarsia for the control of the white fly in hothouses have been recommended. Measures for the control of aphanomyces and other root rots of peas and of the sugar beet nematode have been proposed. Cabbage varieties with complex resistance to club rot and cabbage flies have been introduced. Focal treatments against the San Jose scale have been recommended and so forth.

In 1981 the All-Union Scientific Production Association for Agrochemical Services to Agriculture introduced 88 scientific developments and achievements of advanced experience into production. They produced a total annual economic effect of over 400 million rubles on an area of more than 82.6 million hectares. The utilization of zonal recommendations annually ensures 10 to 20 percent of the harvest increase.

Under present conditions zonal systems must be constantly improved in all their links and attached to specific soil and climatic conditions, not only to regions and rayons, but even to individual areas. This applies primarily to the criteria of population of harmful objects.

Special attention must be paid to an improvement in the protection of agricultural crops during their intensive cultivation. With industrial schemes the effect of a number of dangerous pests and diseases on plants changes. For example, as a result of a reduction in the number of presowing treatments in early spring and of interrow hoeings in summer the survival rate and harmfulness of click beetles on all row crops and of black root on sugar beet shoots rise. An increase in plant density, which is usually recommended with industrial technologies, is accompanied by an intensified development of the stem and root forms of storage rot in sunflower seeds, a rise in the harmfulness of fusarial rot and a drop in common corn smut, cercosporosis and powdery mildew on sugar beet crops and so forth.

With industrial technologies the level of utilization of pesticides, especially herbicides, rises, which must be also taken into consideration from the point of view of environmental protection. Of course, all this requires a critical analysis of the systems of measures for the control of pests, diseases and weeds and their adaptation to new technological schemes.

A high efficiency of plant protection can be attained only when agriculture is outfitted with modern equipment. Hundreds of thousands of tractor sprayers, as well as treaters, operate in it. However, the provision with them comprises only 65 and 69 percent respectively. Machines for ground ultralow volume spraying, band application of granulated preparations, thermal and chemical treatment of seeds in flow lines of seed cleaning plants and a combined application to soil of pesticides and mineral fertilizers for a wide introduction of integrated systems and new techniques and methods of plant protection into practice are needed. Nor does the quality of a number of machines meet modern requirements. In particular, ground sprayers are made from noncorrosion resistant materials, which rapidly makes equipment inoperative.

It is necessary to accelerate the output of needed equipment, in particular units for the disinfection of seeds against loose smut and of ground dispensers of poisoned baits for rodent control, and to organize an industrial production of a wide-coverage boom sprayer. We must develop equipment for low-volume and ultralow-volume spraying and organize an extensive approbation of technology ensuring a reduction in the expenditure of pesticides and outlays on treatment. It is necessary to develop facilities for the application of granulated nematicides and insecticides, because the lack of such special equipment hampers the introduction of these forms of pesticides during the cultivation of crops according to industrial technologies. Practical workers urgently need high-clearance sprayers for the treatment of high-stem plants, as well as various types of dressing machines and light portable motor equipment for the treatment of small plots, including private plots.

A total of 450,000 to 500,000 machine operators and workers are trained and 35,000 to 37,000 special brigades and links for plant protection are established on kolkhozes and sovkhozes at the beginning of the season. Detachments of the All-Union Scientific Production Association for Agrochemical Services to Agriculture also participate in the implementation of special measures.

In order to increase the efficiency of chemical plant protection, it is necessary to eliminate a number of significant shortcomings. Violations of the technology of pesticide application are still permitted, the quality of preparation of working solutions is not controlled everywhere and forecasts of some dynamic species of pests, for example the beet webworm, are inaccurate. It is necessary to increase the responsibility of plant protection stations, forecast centers and laboratories and production detachments for a prompt and quality performance of operations, for the observance of regulations and technology of pesticide application and for the introduction of the achievements of science and practice. In a number of republics the stocks of preparations are distributed without a proper study of the forecast of the appearance and development of pests and diseases. Farms and special detachments are insufficiently equipped with special work clothing and individual facilities.

Standards of expenditures and of outlays during pesticide application and economic harmfulness thresholds as applied to the conditions of a republic, zone, crop and organism are weak spots. Unfortunately, a number of institutes, in particular VNITIKiZR and VNIPIagrokhim, do not engage in research on an improvement in the technology of application of preparations.

Nor is the provision with personnel sufficient. At present work on farms requires 44,000 plant protection agronomists, but there are only 15,500 (only 50 percent of them have special education). Furthermore, a drain of personnel from the plant protection system has been observed in the last few years. It is necessary to analyze the reasons for this in order to take measures to retain cadres of protection workers.

For the purpose of improving agrochemical services to agriculture, the All-Union Scientific Production Association for Agrochemical Services to Agriculture must more widely undertake a guaranteed protection of crops in order to obtain programmed harvests. Right now it is necessary to introduce cost accounting in such mandatory operations as seed dressing, treatment of fruit crops before the opening of buds and so forth.

Scientific research institutes of plant protection and sectorial institutes should concentrate their efforts on the fulfillment of specific overall programs and focus on directions determining scientific and technical progress.

It is necessary to give a scientific substantiation to the optimum sizes and structure of subdivisions for plant protection in a single complex of agrochemical services at all the levels of management of agricultural production, to their economic interrelations and to production relations with kolkhozes, sovkhozes and rayon agroindustrial associations. We must substantiate and introduce into production methods of determining the need for and of efficiently distributing (by means of computers) plant protection agents at all the levels of agricultural production, complete the development of overall systems and of the standards of expenditure, outlays and efficiency of pesticide application for the 12th Five-Year Plan, establish and improve economic harmfulness thresholds for all harmful objects, perfect the technology of application of plant protection agents under the conditions of industrial cultivation of crops and analyze the tendency toward the development of phytosanitary conditions with new technologies. It is also necessary to work out methods of forecasting the development of plant pests and diseases and of signaling the periods of their control with the use of remote equipment for phytosanitary diagnosis and to automate the collection and processing of information on the development of harmful objects and on the course of their control for the purpose of promptly ensuring an efficient harvest protection. We must develop scientific foundations and principles for plant protection to prevent losses of agricultural products during storage. It will be necessary to intensify research on the aftereffect of biologically active substances to ensure man's health and environmental protection. Overall research must be directed toward a transition to the control of the population of harmful species and agrocenoses during the intensification of agricultural production.

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SOVIET-BULGARIAN COLLABORATION IN TIMBER PRODUCTION

Moscow IZVESTIYA in Russian 28 Feb 83 p 2

[Article by TASS correspondent: "Fraternal Collaboration of Timber Procurement Workers"]

[Text] A shining example of socialist integration in action is the collaboration of the USSR and Bulgaria in the area of timber exploitation. An integrated timber complex established through the efforts and resources of these two fraternal countries on the territory of the Komi ASSR features not only a high level of production concentration and mechanization but also all necessary conditions for fruitful labor and recreation. This was the topic of a celebration dedicated to 15 years of Soviet-Bulgarian collaboration in timber procurement operations in the Komi ASSR.

Speeches by First Secretary I.P. Morozov of the Komi party obkom, D. Zhulev, ambassador to the USSR from the People's Republic of Bulgaria (PRB), and other speakers noted that the new form of economic integration of the two countries has successfully passed the test for maturity, having proven its viability, and is serving to further strengthen Soviet-Bulgarian fraternal friendship. During the course of joint operation more than 23 million cubic meters of lumber, more that 1.5 million cubic meters of wood chips for technological processing and 3.5 million rubles' worth of cultural and domestic goods have been delivered to consumers in the USSR and Bulgaria. Four well-arranged urban-type settlements have been built in the northern taiga.

Prospects for developing the collaboration, for introducing progressive forms and methods of work, for full and rational use of timber resources and the wood for procurement, and for careful and economical expenditure of all material and human resources were related by M.I. Busygin, USSR Minister of the Timber, Pulp and Paper, and Wood Processing Industry, and Ya. Markov, PRB Minister of Forests and the Timber Industry.

Bulgarian workers and specialists who spoke at the meeting expressed gratitude to the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, and to the party and soviet leadership of the Komi ASSR for their continual concern and attention.

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